

## REMARKS

Claims 17-36 were pending with none of the claims yet indicated allowable. Applicant respectfully requests reconsideration for the reasons below.

### 35 U.S.C. § 112 Rejections

The Office has enablement concerns regarding claims 24, 32, 35 and 36.

Regarding over-fired air, applicant has amended claims 24 and 32, without disclaimer, to address the Office's concerns.

Regarding power plant load and sulfur content of coal, applicant respectfully disagrees with the rejections and requests reconsideration. It is well settled that "[o]pen-ended claims are not inherently improper; as for all claims their appropriateness depends on the particular facts of the invention, the disclosure, and the prior art. They may be supported if there is an inherent, albeit not precisely known, upper limit and the specification enables one of skill in the art to approach that limit." *Andersen Corp. v. Fiber Composites*, 474 F.3d 1361, 1376-1377 (Fed. Cir. 2007).

In the claims, it is the lower limit of sulfur concentration in the coal that would be of concern to one of ordinary skill in the art practicing the invention. The upper limit is inherent and readily determinable based on the coal being burned. Further, applicant respectfully believes the burden is on the Office to explain why one of ordinary skill in the art would not be able to practice applicant's invention with coal having at least about 0.8% S content. Applicant was unable to locate any rationale for the rejection. If the Office maintains the rejection, applicant respectfully requests that the Office indicate a particular coal of concern so that applicant may better respond.

Regarding power plant load, similarly, it is the lower limit that sets the claimed invention apart from the small system of Salooja and Salooja's different set of problems. Upper load limits would be readily recognizable to one of ordinary skill in the art for any power plant.

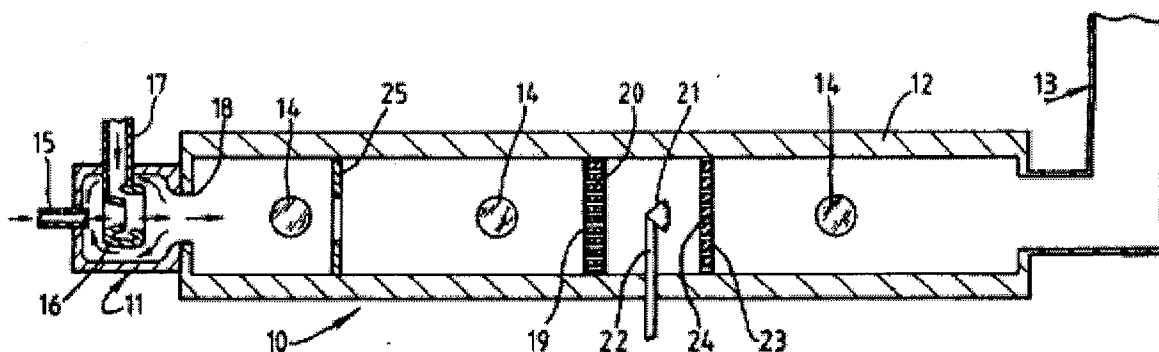
Again, applicant respectfully believes the burden is on the Office to explain why one of ordinary skill in the art would not be able to practice applicant's invention with a coal-burning power plant that has a load of at least about 70 MW<sub>net</sub>. Applicant was unable to locate any rationale related to the particular rejection. If the Office maintains the rejection, applicant

respectfully requests that the Office indicate a particular load of concern so that applicant may better respond.

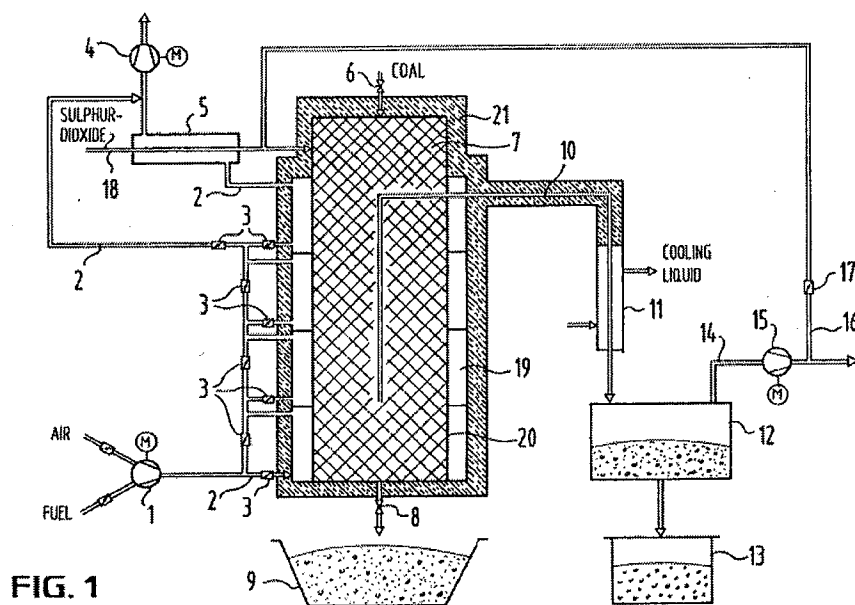
### **35 U.S.C. § 103 Rejections**

The Office has provided new grounds of rejection based on applicant's previous response. Claims 17-36 were rejected under 35 U.S.C. § 103 as obvious over U.S. Patent No. 4,375,949 ("Salooja") in view of U.S. Patent No. 5,039,507 ("Sturm") and U.S. Patent No. 4,029,752 ("Cahn"), and in further view of United States Patent No. 4,196,057 ("May"), United States Patent No. 5,011,516 ("Altman"), and applicant's admitted prior art. Applicant requests reconsideration and allowance for the reasons below.

All claims stand rejected, at least in part, based on Salooja in combination with Sturm. Salooja has been previously described, and in summary, is directed to a method of combusting using small combustion systems. Salooja's Figure 1 is provided below for context:



Sturm, briefly, is directed to a method of continuous reduction of sulphur dioxide-containing gases to sulphur using an apparatus for receiving flue gas from, for example, a power plant. Sturm's Figure 1, illustrating Sturm's apparatus for creating sulphur is provided below for context.



In addition to Sturm's apparatus, Sturm discloses power plants capable of emitting about  $2 \times 10^6$  m<sup>3</sup> of flue gas an hour, which corresponds to about 4 tons of SO<sub>2</sub> per hour for a coal having about 1% sulphur content (col. 1, lines 15-25).

In the current rejection, the Office contends that it would have "been obvious to one of ordinary skill in the art at the time the invention was made to perform the Salooja method steps to treat the effluent from a conventional power plant described by Sturm, in order to remove harmful pollutants from the exhaust stream (col. 1, lines 25-30).

Initially, it should be clear that Sturm is directed to a reactor apparatus for treating gases, for example, from a power plant. Sturm's reactor creates sulphur from sulphur dioxide. It should also be clear that Salooja is directed to a combustion chamber for burning a fuel, i.e., fuel oil.

MPEP 2143.01 provides that "[i]f [the] proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification". MPEP 2143.01 provides that "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious".

The Office's rationale is based on using Salooja's combustion chamber, e.g. illustrated above, as a reactor for treating effluent from a power plant disclosed by Sturm. Salooja's combustion chamber is clearly not a reactor apparatus for treating flue gas as disclosed by Sturm, nor could it function as Sturm's apparatus. In effect, the Office's combination changes Salooja's method of operation and destroys both Salooja's ability to combust and Sturm's ability to create sulphur. For at least these reasons, the current rejection is in error and favorable reconsideration is respectfully requested.

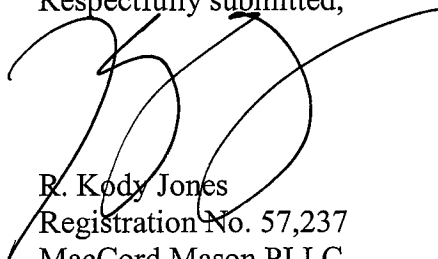
Further, applicant notes that Salooja fails to disclose or suggest the limitations of, *inter alia*, claims 24 and 32. Reconsideration is respectfully requested.

Regarding claims 34 and 35, the Office contends that Salooja discloses "reducing the concentration of sulfur trioxide to 18 ppm". Applicant respectfully notes however that Salooja achieves the noted concentration using a different method than recited by applicant. For example, Salooja achieved the noted concentration using an interstage catalyst, a first stage catalyst, and a second stage catalyst. For at least these reasons, favorable reconsideration is requested.

### **Conclusion**

Applicant notes that because Applicant has addressed certain concerns of the Office does not mean that Applicant concedes other comments of the Office. Furthermore, in the interest of clarity and brevity, the fact that Applicant has made arguments for the patentability of some claims does not necessarily suggest that there are not additional supportive grounds for the patentability of those or other claims. However, if any issue remains unresolved, Applicants' representative would welcome the opportunity for a telephone interview to expedite allowance and issue.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'R. Kody Jones', written over the typed name and address.

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